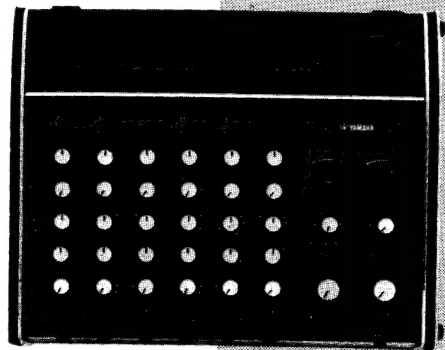


# YAMAHA ENSEMBLE MIXERS

## EM-100/80

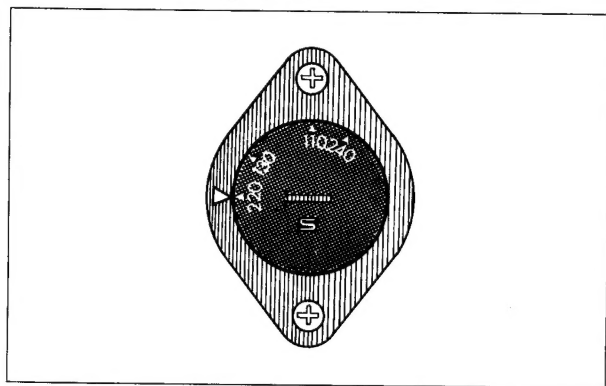


## Owner's manual

## PRECAUTIONS

You may seriously damage any transistorized audio unit by being careless when you first operate it. Carelessness is the major cause of audio repairs. Avoid disappointment by following the precautions listed here **BEFORE** plugging in or attempting to operate your EM-100 or EM-80.

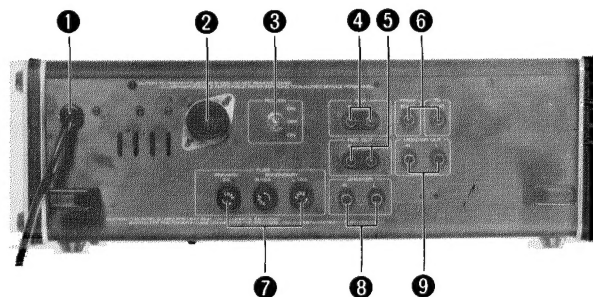
- Before you plug in the power cord please check that the voltage selector is set to your local current. If not properly set, turn the knob and reset it to the correct voltage position.



Voltage settings: 110, 130, 220, 240V (the 150, 260V settings are not connected). U.S., Canadian, European and Australian models are set to the proper voltage before shipment.

- Make sure the power switch is off before plugging in the power cord.
- Unplug the power cord as a safety measure, or at the very least be sure the power switch is off, before connecting or disconnecting any cords.
- Protect the unit from heat, humidity, dust and shocks. Keep the unit away from direct sunlight or other sources of heat.
- Be sure there is sufficient space around, behind and under the unit for proper ventilation.
- Do not switch input selectors while the amp is in use.

## REAR PANEL PARTS



**1 Power Cord**

**2 AC Outlet (not provided in certain areas)**

**3 Power Switch**

Pick the On position which affords the lower hum level.

**4 Aux. Jacks**

These jacks are for use when playing a signal from another audio sound source. They are useful for record player signals, or for playing back the sound from a recorded tape. Also use these jacks to feed the signal from another EM unit when extra channels are needed.

**5 Rec. Out Jacks**

These jacks are for feeding the signal to a tape deck or recorder for recording. These jacks have the unusual feature of serving as signal input terminals as well, when the signal is from another EM unit. See page 5 for details.

**6 Echo Jacks**

Feed the signal out to an echo unit via the To Echo jack, then back in through the From Echo jack.

**7 Fuses**

Replace with a fuse of the same value.

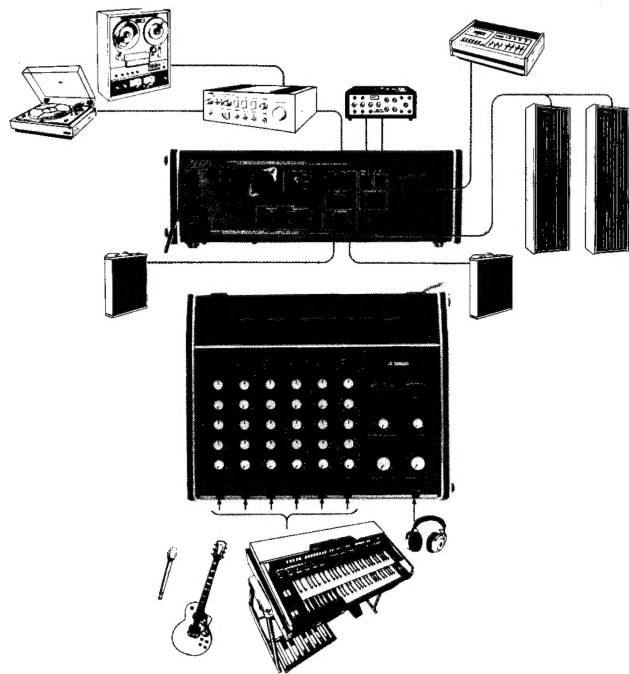
**8 Speaker Jacks**

These jacks are for the YES speakers. If any other speakers are connected to these jacks, be sure to verify that they are  $8\Omega$  types, and that their maximum allowable input is not too low for the YES output.

**9 Monitor Out Jacks**

Use these jacks when feeding the mixed signal to a combination amp/speaker (music amp) unit for extra power (for large hall performances, etc.).

# CONNECTION DIAGRAM



## Extra Channels with a Second Unit

A second unit can be connected for extra channels in two ways:

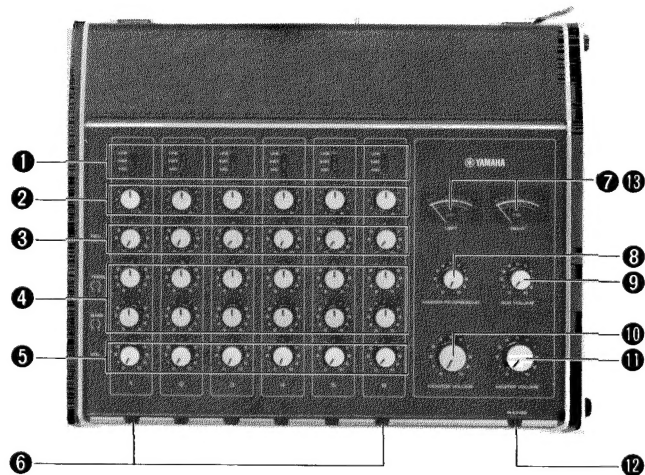
(A) Connect from the sub unit Rec. Out jacks to the main unit Aux. jacks. In this case the volume can be controlled by the main unit Aux. Volume knob.

(B) Connect from the sub unit Rec. Out jacks to the main unit Rec. Out jacks. In this case the volume is controlled by the main unit Master Volume knob.

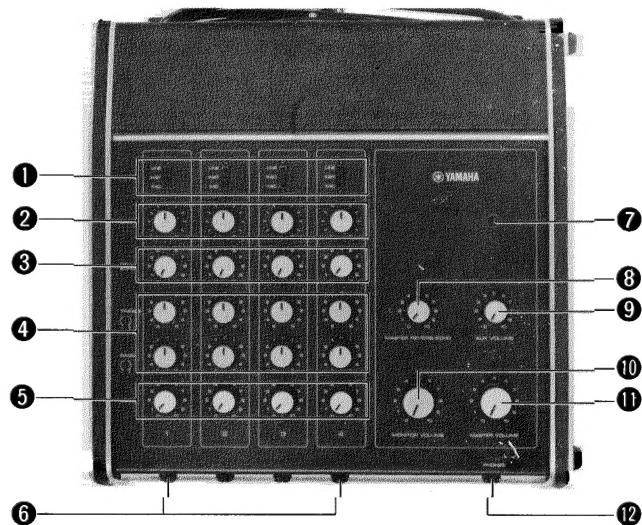
If you wish a separate volume control independent of the Master Volume, use (A) connection; if you do not, use (B).

# FRONT PANEL PARTS & CONTROLS

EM-100



EM-80



### ① Input Selectors

Each selector has three settings. Use LINE for a signal from an audio unit such as a tape deck, record player, etc. Use INST. for electric guitar, bass, combo organ and any other electric instrument. MIC is for a microphone connection, regardless of whether the microphone is used for voice or for a wind instrument, acoustic guitar, etc.

### ② Balance Controls

Each control can be used to divide that channel input between left and right channels, for all the outputs. Turning all the way to the left feeds that signal to the left channel only. The center position provides even balance between both channels.

### ③ Reverb/Echo Controls

If you wish to use either Reverb or Echo, you can blend the effect into each channel individually with the continuous control. The reverb effect is built in, but echo requires a special echo unit. Connecting the echo unit to the Echo jacks will change the Reverb to Echo.

### ④ Tone Controls

Each channel has its own Treble and Bass tone controls, which affect each end of the frequency scale. Turning either knob clockwise accentuates the tones (high or low) controlled by that knob.

### ⑤ Volume Controls

Each channel has its own Volume knob. Turning the knob clockwise increases the volume.

**⑥ Input Jacks**

**⑦ Pilot Lamp**

**⑧ Master Reverb/Echo Control**

To adjust the overall intensity of the effect.

**⑨ Aux. Volume Control**

To adjust the volume of the signal from the Aux. jacks going to the Speaker and Phones outputs. The volume is independent of the other volume controls, including Master Volume.

**⑩ Monitor Volume Control**

Controls the combined volume of the signals from all the channels going to the Monitor Out output.

**⑪ Master Volume Control**

Used to control the combined volume of the signal from all the channels going to the Speaker and Phones outputs.

**⑫ Phones Jack**

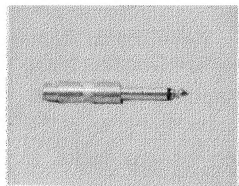
This stereo jack can be used for stage or other monitoring.

**⑬ VU Meters (EM-100 only)**

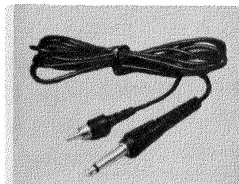
These meters show the volume level of the unit's overall output signal from the Speaker jacks (i.e., the signal controlled by the Master Volume knob); they do not show the signal level from the Rec. Out jacks. If the level is so high that the needle on either or both channels exceeds +3, sound distortion will result.

# ACCESSORIES

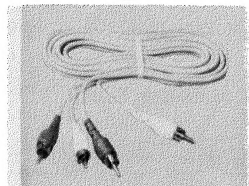
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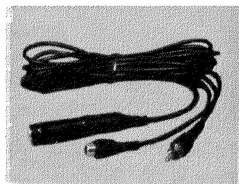
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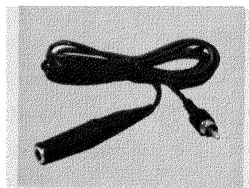
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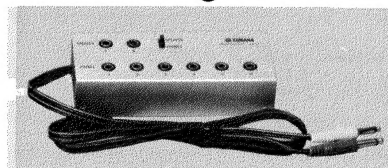
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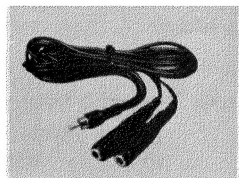
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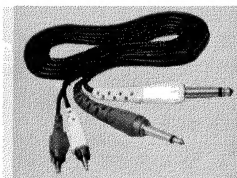
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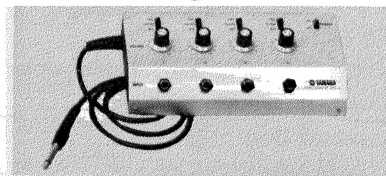
3



6



9





**① JP-20 Adaptor Plug**

Male end: Telephone plug

Female end: Pin jack

Handy for connecting a pin plug to a telephone jack.

**② PPJ-40 Single/Double Connector Cord**

Single end: Pin plug

Double end: Pin jack & telephone jack

Length: 1.5 meters

Use to connect a pin jack to both a telephone and a pin jack. Two connectors required for stereo.

**③ PJJ-50 Single/Double Connector Cord**

Single end: Pin plug

Double end: Telephone jacks (2)

Length: 1.5 meters

For connecting a pin jack to two telephone jacks.

**④ PJ-30 Connector Cord**

Male ends: Pin plug & telephone plug

Length: 1.5 meters

For connecting pin jack and telephone jack. Two cords required for stereo.

**⑤ PJ-35 Connector Cord**

Male end: Pin plug

Female end: Telephone jack

Length: 1.5 meters

To connect a pin jack to a cord with a telephone plug.

**⑥ PJ-40 Double Connector Cord**

Pin plugs (2) and telephone plugs (2)

Length: 1.5 meters

For stereo connection of pin jacks and telephone jacks.

**⑦ PP-35 Double Connector Cord**

Pin plugs both ends (4)

Length: 1.5 meters

For connecting two sets of stereo pin jacks.

**⑧ HP-6 Headphone Brancher**

Provides six extra headphone jacks to let everybody in the group—or a group of listeners—monitor the music.

**⑨ MX-4 Pre-Mixer**

Four extra inputs, each with its own MIC/GUITAR/LINE switch and volume control. Plugs into a single YES input jack. Carries its own economical battery power.

# SPECIFICATIONS

## CHANNELS:

6(EM-100), 4(EM-80)

## OUTPUT POWER:

30 Wrms x 2 (EM-100/80)

## CHANNEL CONTROLS:

Volume, Bass, Treble

Reverb/Echo

Speaker Balance

Input Selector (Mic/Inst/Line)

## MASTER CONTROLS:

Volume, Reverb/Echo

Aux. Volume, Monitor Volume

Power Switch

## FITTINGS:

6 Input Jacks (EM-100)

4 Input Jacks (EM-80)

Aux. In Jacks (L, R)

Speaker Jacks (L, R)

Monitor Out Jacks (L, R)

Rec. Out Jacks (L, R)

To Echo Jack, From Echo Jack

Level Meters (L, R, EM-100)

Headphone Jack

Pilot Lamp

## POWER CONSUMPTION:

130W (EM-100/80)

## DIMENSIONS (W x H x D):

EM-100: 42.9x14.4x37.6 cm

(17x5½x14¾")

EM-80: 34.5x14.4x37.6 cm

(13½x5½x14¾")

## WEIGHT:

EM-100: 8.5 kg (18.7 lbs.)

EM-80: 8.0 kg (17.6 lbs.)

*Specifications subject to change without notice.*

INPUT TERMINALS		NOMINAL INPUT LEVEL		IMPEDANCE
		EM-100	EM-80	
INPUT	LINE	-19 dBm(0.09V)	-21.5dBm(0.065V)	50k $\Omega$
	INST.	-24.5dBm(0.05V)	-27dBm(0.035V)	50k $\Omega$
	MIC.	-45 dBm(4mV)	-47.5dBm(3mV)	10k $\Omega$
AUX.		-15 dBm(0.14V)	-15 dBm(0.14V)	50k $\Omega$
FROM ECHO		-27 dBm(0.035V)	-27 dBm(0.035)	50k $\Omega$

OUTPUT TERMINALS		NOMINAL OUTPUT LEVEL		IMPEDANCE
		EM-100	EM-80	
REC. OUT		-11 dBm(0.22V)	-13.5dBm(0.16V)	50k $\Omega$
MONITOR OUT		+9 dBm (2.2V)	+9 dBm(2.2V)	5k $\Omega$
TO ECHO		-13 dBm(0.17V)	-15.5dBm(0.13V)	50k $\Omega$

